

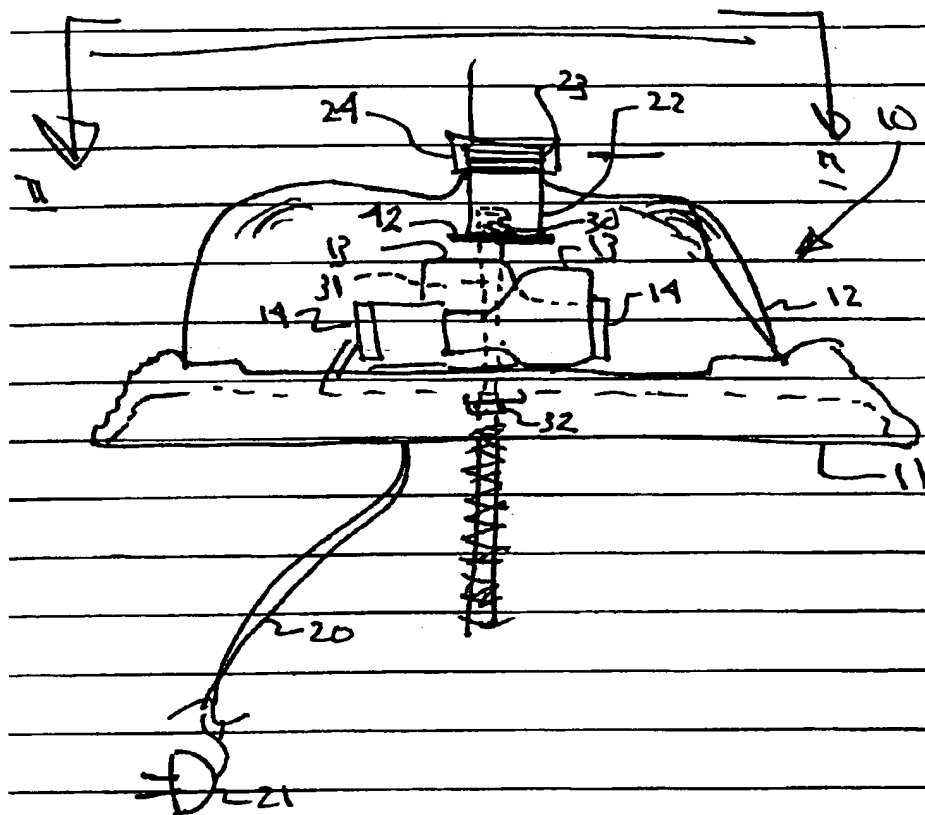
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(54) **DETECTEUR DE MOUVEMENT INTEGRE A UN PLAFONNIER
ENCASTRE**

(54) **MOTION DETECTOR WITHIN FLUSH MOUNTED CEILING
LIGHT**



(57) A ceiling light operable to be flush mounted on a wall or ceiling. The ceiling light has a base plate and a globe removably mounted to the base plate. A motion detector is operably installed between the base plate and the covering globe and has a removable cap connected to the motion detector. The removable cap allows the removal of the covering globe. The cap has a translucent or transparent central area which allows the motion detector to sense motion through the cap.

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ABSTRACT OF THE DISCLOSURE

A ceiling light operable to be flush mounted on a wall or ceiling. The ceiling light has a base plate and a globe removably mounted to the base plate. A motion
5 detector is operably installed between the base plate and the covering globe and has a removable cap connected to the motion detector. The removable cap allows the removal of the covering globe. The cap has a translucent or
transparent central area which allows the motion detector to
10 sense motion through the cap.

TITLE

MOTION DETECTOR WITHIN FLUSH MOUNTED CEILING LIGHT

INTRODUCTION

5 This invention relates to a motion detector and,
more particularly, to a motion detector operably installed
in a flush mounted ceiling light.

BACKGROUND OF THE INVENTION

10 Motion detectors arranged to detect the motion of
people, animals and the like are, of course, well known.
Typically, such motion detectors, when used with lights, are
positioned near entryways to a house or garage. Operation
of the light is initiated when motion is detected nearby
and, accordingly, such apparatuses are useful for both
15 security and convenience. If an intruder is sensed, the

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initiation of the light will attract attention and expose the intruder. This may cause him to leave the vicinity. If the occupant of the house is entering the garage or house, the light will allow more convenient and visible entry to the structure.

Typically, such motion detectors are mounted outside the light source; that is, the motion detector is visible and through appropriate circuitry, it initiates operation of the light located adjacent the detector. This is satisfactory for locations where there is no particular need for good appearance. However, motion detectors are also used within a dwelling or other structure for security purposes; that is, when an intruder enters a house, the motion detector which is usually in an armed condition under such circumstances, will detect the intruder and initiate the security alarm to warn operators of the security system that something is amiss within the structure where the detector is located.

Motion detectors used within structures are usually mounted on walls or within corners of the house where they command a good view of the area sought to be monitored. Such placement is necessary for proper functioning of the motion detector. This places such

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detectors in highly visible locations to occupants of and guests within the dwelling. Such detectors are unsightly, particularly in residential structures which may otherwise be tastefully decorated.

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SUMMARY OF THE INVENTION

According to the invention, there is provided a ceiling light having a mounting plate and a covering globe removably connected to said mounting plate and defining a volume between said covering globe and said mounting plate, at least one light bulb mounted within said volume between said covering globe and said mounting plate and a motion detector mounted adjacent said light bulb and being substantially surrounded and within said volume between said covering globe and said mounting plate, said motion detector being operable to sense motion from said ceiling light.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

A specific embodiment of the invention will now be described, by way of example only, with the use of drawings in which:

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Figure 1 is a diagrammatic side view of a flush

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mounted light according to the invention and particularly illustrating the light bulbs and the motion detector associated therewith;

Figure 2 is a diagrammatic plan view taken along
5 II-II of Figure 1 but without the covering globe;

Figure 3A is a diagrammatic side view of the cap used to secure the covering globe;

Figure 3B is a diagrammatic plan view of the cap of Figure 3A; and

10 Figure 4 is an exploded side view of the ceiling lamp, globe, motion detector and related parts.

DESCRIPTION OF SPECIFIC EMBODIMENT

Reference is now made to the drawings and, in particular to Figure 1 wherein a light, typically a flush
15 mounted ceiling light is generally illustrated at 10. Ceiling light 10 includes a base plate 11, a translucent covering globe 12 operable to allow light to pass therethrough and which is removable from the base plate 11 and two(2) light bulbs 13 which are mounted within sockets

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14 connected to the base plate 11. The sockets 14 are connected with a source of electricity by way of cord 20 and plug 21.

A motion detector 22 is mounted within the covering globe 12. Motion detector 22 has a threaded outer surface 23 which is operable to match the thread on a removable cap 24. Motion detector 22 also had a threaded inner hole 30 which matches and mates with identical threads on a rod 31. The motion detector 22 has two holes 40 extending longitudinally or axially the length of the motion detector 22. The holes 40 allow air to pass therethrough for cooling; that is, the bulbs 13 will generate heat and the cooling holes 40 will allow the circulation of air through the detector 22 which will assist in dissipating heat arising within the detector 22 thereby allowing more efficient and consistent operation of the motion detector 22. To further assist in maintaining efficient operation of the motion detector 22, the housing of the detector 22 may be electroplated which will reflect heat generated by the bulbs 13. Conveniently, a plurality of metal shields 41 are positioned between the bulbs 13 and the motion detector 22. A further metal shield 42 (Figure 1) is located at the top of rod 31 and below the motion detector 22, likewise to reflect heat away from the motion detector 22. The rod 31

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is connected to the base plate 11 using a nut 32.

Cap 24 is shown in greater detail in Figures 3A and 3B. Cap 24 has a threaded inner diameter 32 which matches the threads on motion detector 22. Cap 24 further has a translucent central portion 33 which is raised somewhat above the circumference 34 of cap 24 as best seen in Figure 3B. The purpose of the translucent central area 33 is to allow the motion detector 22 to sense motion through the cap 24 when the cap 24 is installed on the motion detector 22 as seen in Figure 1. Motion detector 22 has a 360 degree view from ceiling light 10 so that any motion taking place within a cone emanating from the ceiling light 10 will be sensed by the motion detector 22.

OPERATION

In operation, the ceiling light 10 is installed in position on the ceiling of a room of a residence or other building as is usual. In this position, the globe 12 will be facing downwardly and the motion detector 22 will command a 360 degree view through the translucent central area 33 of cap 24. When motion is sensed, the light bulbs 13 may be switched on or, alternatively, the motion detector 22 may be connected to a security system which will then be initiated

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by the motion sensed.

If it is desired to service the ceiling light 10 by way of bulb replacement, cleaning or other problem, cap 24 is rotated and removed from the motion detector 22. The globe portion 12 will slide downwardly over the motion detector 22 and will be laid aside for cleaning and/or reinstallation. The light bulbs 13 are then readily replaceable as is usual and/or the motion detector 22 may be serviced. The globe portion 12 is then installed again over the motion detector 22 until the circumference is flush with the base plate 11. The cap 24 is threadedly installed and tightened on the motion detector 22 and the apparatus is ready for operation as desired.

Many modifications will readily occur to those skilled in the art to which the invention relates. The light may be independently installed on the ceiling with no switch provided to operate the light bulbs independently of the motion detector 22; that is, the lights 13 will only illuminate when motion is sensed by the detector 22.

Alternatively, the detector 22 may be connected to a security system rather than the light bulbs 13 and when motion is sensed, the alarm configuration of the security system will be initiated. Or, the lights bulbs 13 may be

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connected to a wall switch which will allow operation of the ceiling light 10 independently of the motion detector 22 as is usual in ceiling lights 10 which do not carry a motion detector 22.

5 Many further modifications will readily occur to those skilled in the art to which the invention relates and the specific embodiments described should be taken as illustrative of the invention only and not as limiting its scope which should be limited only in accordance with the
10 accompanying claims.

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I CLAIM:

1. Ceiling light having a mounting plate and a covering globe removably connected to said mounting plate and defining a volume between said covering globe and said mounting plate, at least one light bulb mounted within said volume between said covering globe and said mounting plate and a motion detector mounted adjacent said light bulb and being substantially surrounded and within said volume between said covering globe and said mounting plate, said motion detector being operable to sense motion from said ceiling light.

2. Ceiling light as in claim 1 wherein said motion detector is operably mounted to said mounting plate.

3. Ceiling light as in claim 2 wherein said motion detector is covered by a cap, said cap having a translucent central area to allow motion to be sensed from said motion detector through said cap.

4. Ceiling light as in claim 2 wherein said cap is connected to said motion detector by a threaded connection between said cap and said motion detector.

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5. Ceiling light as in claim 4 wherein said motion detector is centrally located relative to said base plate.

6. Ceiling light as in claim 5 wherein said motion detector is threadedly mounted on a rod, said rod extending from said base plate.

7. Ceiling light as in claim 6 wherein said motion detector initiates operation of said light bulb.

8. Ceiling light as in claim 6 wherein said light bulb operates independently of said motion detector.

9. Ceiling light as in claim 6 wherein said motion detector is operably connected to a security system having an alarm mode, said alarm mode being initiated when motion is sensed by said motion detector.

10. Ceiling light as in claim 6 and further comprising at least one cooling hole in said motion detector.

12. Ceiling light as in claim 10 and further comprising a reflective shield between said light bulb and

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said motion detector.

NOTES FOR FILE

Date:

Telephone Call: ☐ T ☐ F

Interview

with:

Client:

Re:

File No.:

Action Required:

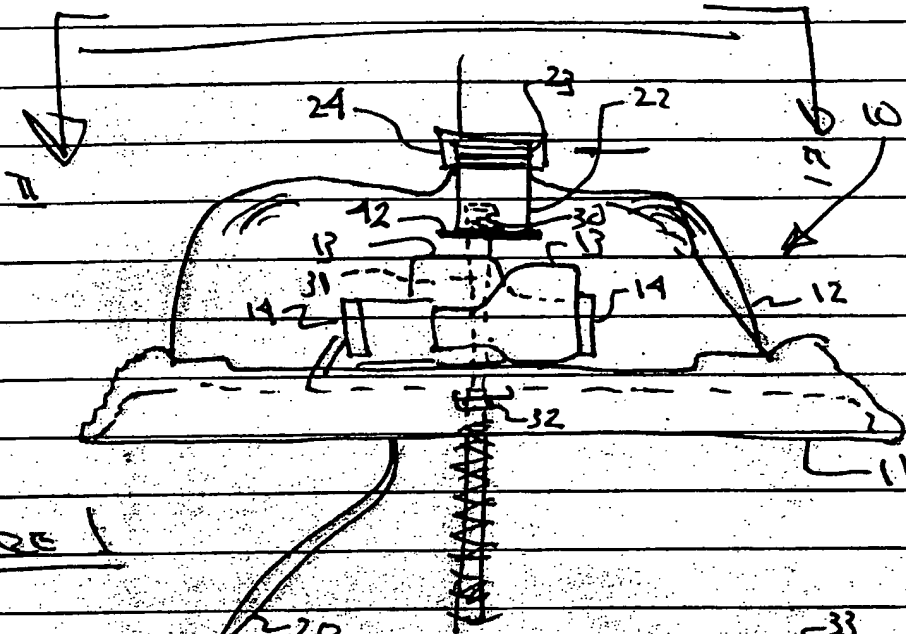


FIGURE 1

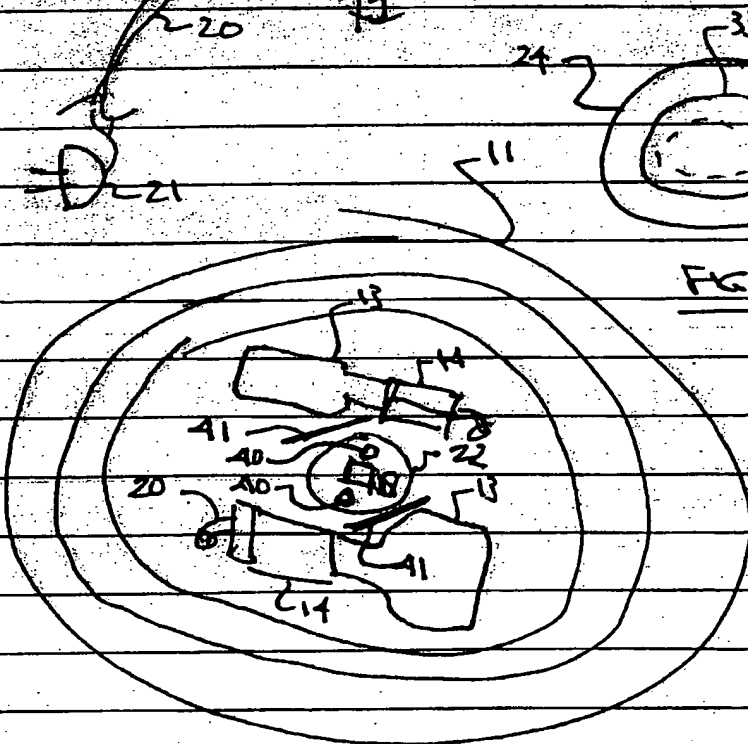


FIGURE 2

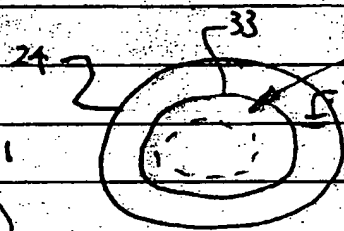


FIG. 3A

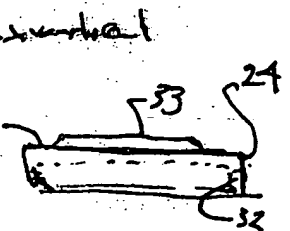


FIG. 3B

Bring Forward:

Date:

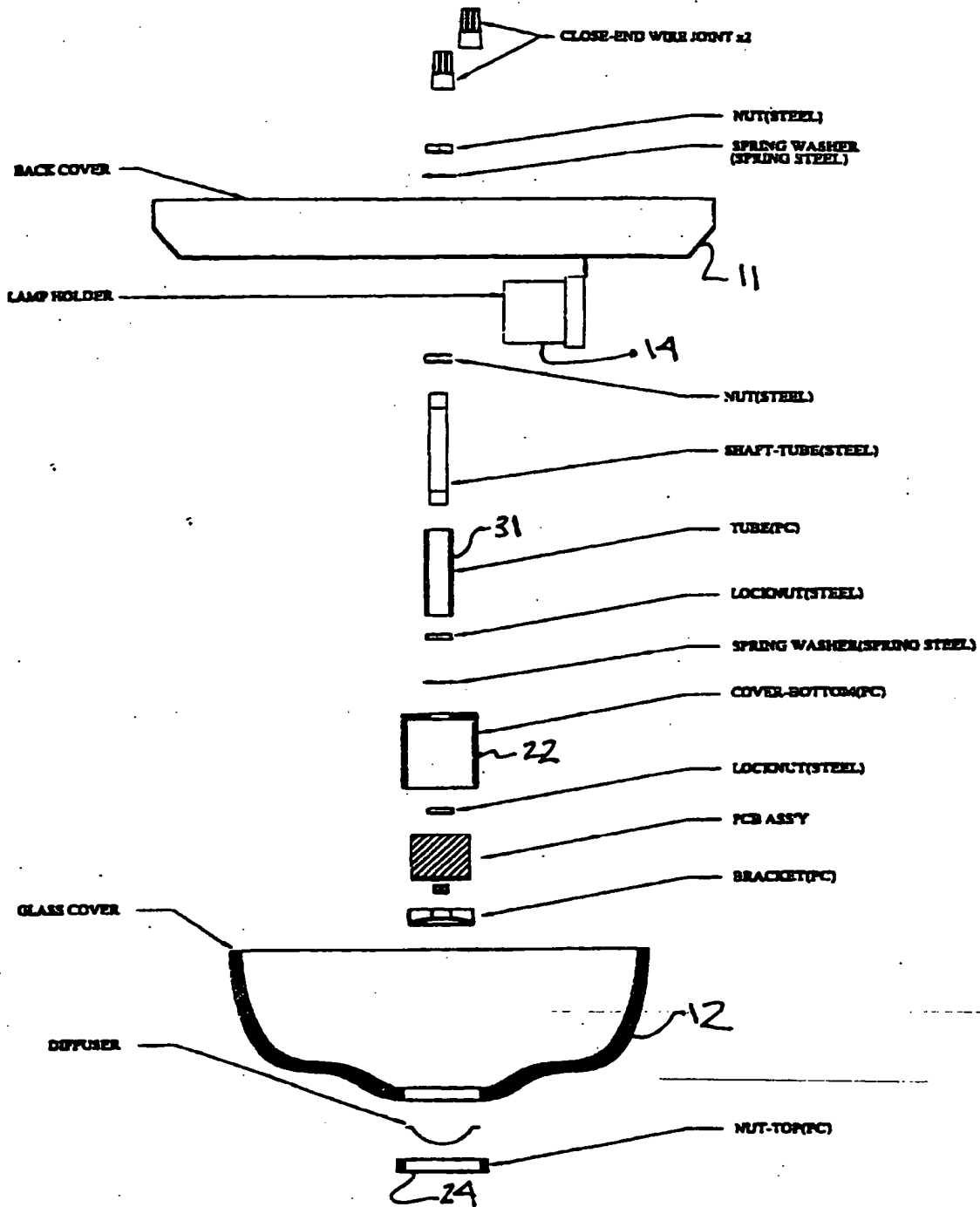


FIGURE 4

